

WHAT IS CLAIMED:

1. A semiconductor material having a equilibrium dopant solubility of boron or indium of greater than 1%.
2. The semiconductor material of Claim 1, comprising epitaxial silicon on a Zinc Sulfite (Zns) substrate along (001) direction.
3. The semiconductor material of Claim 2, wherein the dopant is boron.
4. The semiconductor material of Claim 1, comprising epitaxial  $\text{Si}_x\text{Ge}_{1-x}$  alloy on a silicon substrate.
5. The semiconductor material of Claim 4, wherein the dopant is indium.
6. The semiconductor material of Claim 1, comprising silicon grown on a Aluminum Phosphate (AIP) substrate along a (001) direction.
7. A p-type semiconductor comprising silicon and a dopant comprising boron or indium.
8. The semiconductor of Claim 7 wherein said dopant includes boron and said semiconductor comprises  $\text{S:B}_3$ .